

**STATEMENT FOR THE RECORD BY
RICHARD M. LEWIS
SENIOR VICE PRESIDENT, RESEARCH & TECHNOLOGY
ZENITH ELECTRONICS CORPORATION**

**HEARING ON THE DIGITAL TELEVISION TRANSITION
U.S. SENATE COMMITTEE ON
COMMERCE, SCIENCE, AND TRANSPORTATION
MARCH 1, 2001**

As a long-time participant in the digital television (DTV) transition, Zenith Electronics Corporation appreciates the opportunity to submit this statement for the record discussing where we are today, the challenges we face, and the steps that are necessary to complete the transition to DTV.

We are pleased to report that DTV sales are growing and customer satisfaction levels are high with these products. In fact, according to the Consumer Electronics Association (CEA), approximately 687,000 DTV displays and receivers were sold in 2000, accounting for \$1.4 billion in consumer spending. These numbers represent a sevenfold increase over the previous year. Looking forward, CEA estimates that unit sales of DTV products will grow 80 percent in 2001, with consumer investment climbing to \$2.1 billion.

Not only do these numbers exceed CEA's initial projections, but they also compare favorably with previous blockbuster consumer electronics product introductions. Annual unit sales growth and dollar sales for DTV during its first four years on the market is projected to surpass those of computers, VCRs, CD players, and color TVs. This consumer interest is due to the wide variety of DTV products currently on the market. Over two dozen manufacturers have introduced more than 200 different DTV products, which are being sold at more than a thousand retail locations around the country. Availability increases every day as prices come down, more models are introduced and new retailers begin stocking DTV.

Best of all, consumer interest and satisfaction with DTV continues to rise. When consumers see the extraordinary sound and video experience offered by DTV, they want it — and today's analog television never looks the same again. Consumers are buying DTV even in those markets where broadcast programming is limited or unavailable. Americans are finding that digital and high-definition displays enhance the analog TV experience, and provide the best display for DVD and other pre-recorded content.

While these facts show that DTV momentum is growing, we at Zenith do not suggest that the DTV transition has advanced as quickly as needed or as far as possible. One issue that has previously impeded the DTV transition has been the debate over the DTV transmission standard. Fortunately, that matter now is resolved.

As one of the original developers of DTV technology in general and inventor of the vestigial sideband (VSB) transmission system in particular, we at Zenith are understandably pleased by recent reaffirmations of the ATSC standard. In January of this year, the Federal Communications Commission (FCC) reiterated its long-standing support for VSB and stated there is absolutely no reason to revisit the DTV standards issue. Also in January, the boards of directors of the nation's leading broadcast trade groups, the National Association of Broadcasters (NAB) and the Association for Maximum Service Television (MSTV), voted overwhelmingly to stay the course on VSB modulation and reject a European alternative. Repeated testing by the FCC's own Office of Engineering and Technology shows that the current 8-VSB transmission standard should be retained. All the evidence confirms that the 8-VSB standard is the correct standard for use in the United States, and with this debate

resolved, manufacturers, broadcasters and consumers have the certainty they need to invest in further DTV enhancements.

As proof of our industry's focus on meeting market needs and willingness to cooperate, we continue to explore possible enhancements in the ATSC DTV standard to address broadcasters' changing needs. Receiver manufacturers and chipmaking labs are moving forward aggressively with improved designs for standard applications as well as proposing extensions to provide additional capabilities and flexibility. Because the ATSC standard was designed to offer plenty of "headroom," we are confident that a number of VSB enhancements will be adopted in the near term. Zenith has two such enhancements under development: E-VSB (Enhanced VSB), which would break the 19.4 megabit-per-second bitstream into two parts, one for regular HDTV and another for more robust applications, such as datacasting, and M-VSB, which would provide a mobile solution if broadcasters decide they need such applications.

We urge you to consider the remaining roadblocks to widespread DTV acceptance. In our view, there are four such impediments: (1) the lack of compelling digital content; (2) affordability of consumer equipment; (3) cable carriage and interoperability issues, and (4) the digital copyright situation. Not surprisingly, these issues cut across multiple industries — broadcast, consumer electronics, cable and programming — and therefore pose some thorny challenges for both the private sector and U.S. policymakers.

Broadcaster Activities

U.S. broadcasters have made impressive investments in DTV transmission equipment. With more than 180 stations currently broadcasting a DTV signal, the industry is far outpacing

the DTV transition timetable established by the FCC. Most broadcasters are meeting, if not exceeding, their obligations to begin DTV service. While some stations have encountered tower siting and construction problems, the majority of major network affiliates in the 30 largest media markets are broadcasting in digital. Special credit goes to the growing number of stations in smaller markets — such as Quincy, Illinois (market number 161) and Salisbury, Maryland (number 162) — that have begun DTV broadcasting well in advance of the government-mandated schedule.

At the risk of being labeled optimists, we at Zenith continue to believe that the 2006 deadline for effecting the digital conversion remains theoretically achievable, assuming that the key industries come together to reach agreement on the issues identified above. The real barrier to this timetable is that the transition has not yet captured the hearts and minds of American consumers. For all of us to succeed, consumers need a reason and the means to adopt these new technologies. Without compelling content (whether HDTV, datacasting or some new application), DTV will not flourish. Without equipment that the average consumer can afford, DTV will become a footnote in the digital age. The lack of access to DTV signals, whether over the air or through cable, renders all other issues irrelevant.

Importance of Digital Programming

Broadcasters can do their part in the all-important area of digital programming, a critical element in the overall DTV equation. Despite the leadership provided by CBS (which accounts for the lion's share of HDTV programming), the major commercial networks have yet to feed, let alone originate, their fair share of digital content. In addition to its commitment to prime-time

programs in HD, CBS has offered an unequalled amount of HDTV sports programming, including the AFC playoffs, the Super Bowl, the Masters and the NCAA Final Four.

Without the efforts of CBS, PBS and a small number of independents like WRAL-TV in Raleigh, North Carolina, that have produced and televised a number of exceptional programs (and pushed the envelope on data broadcasting), the early DTV purchaser would have virtually nothing to watch in true HDTV. In fact, absent far greater amounts of compelling digital content, consumers will have little incentive to make the investment in DTV equipment, especially at today's prices.

Besides HDTV, innovative applications of multiple standard-definition television (SDTV) and datacasting may also prove compelling and help drive the DTV market. While we support broadcasters' efforts to provide supplementary and ancillary services such as datacasting, these efforts must not come at the expense of their primary obligation—to provide consumers the opportunity to experience high-quality HDTV programming.

Affordable Consumer Products

Given the meager amount of digital programming, it is remarkable that initial sales of consumer DTV equipment have posted such respectable numbers. Predictions by CEA that sales of DTV equipment this year will exceed one million units compares favorably with the sales curve of color TV, for example, which needed a full decade to reach sales of one million units annually. While some may point to the small number of tuners sold to date as an indication of DTV's failure, the reality is that the high number of sales of HDTV displays proves consumers want digital television. Today's consumers are very sophisticated and will not pay extra for items requiring content that is not available. Increased HDTV broadcast programming

or other digital content will give them the reason to spend the extra money for a tuner or integrated set.

Over the last two years, receiver and display prices have been reduced by nearly half. This decline in the prices of DTV sets is in line with the 44 percent decline seen for DVD players, and much more rapid than the initial price declines of products like CD players, VCRs and large screen analog TVs. In addition, a wide variety of set-top boxes in the \$600 range have been introduced, including boxes that incorporate reception for satellite and over-the-air DTV signals as well as analog signals. With the certainty provided by broadcasters' reaffirmation of the 8-VSB standard, CEA expects to see a strong upsurge in sales of set-top receivers this year.

Zenith is doing its part to offer consumers a wide array of quality DTV products at affordable prices. At the Consumer Electronics Show in January of this year, Zenith expanded its DTV line to include not only new widescreen (16:9) integrated rear-projection HDTVs and 16:9 HDTV monitors (plasma, direct-view, LCD and projection), but also the industry's first fully integrated digital TV set priced below \$1,000. Consumer electronics is an intensely competitive business, and history suggests that it won't be long before demand for DTVs explodes, critical mass and production efficiencies are achieved, prices fall to even more affordable levels, and the product begins to earn mass-market acceptance. Once consumers experience the crisp images and theater-quality sound of DTV, they'll never go back to analog, particularly as DTV products become more affordable and available.

Cable and Content Producer Cooperation Needed

With some 70 percent of all U.S. TV households receiving their local, over-the-air stations via cable, the cable industry also needs to be on board if the DTV transition is to succeed. While some headway has been made on the issue of compatibility between cable equipment and consumer electronics products, we are concerned by the cable industry's slow pace in devising standards that will allow DTVs to connect to cable systems.

The cable issue proving to be even more difficult is the digital must-carry controversy. Ignoring the pleas of broadcasters that cable companies should be required to carry each station's analog *and* digital signals during the transition, last month the FCC ruled preliminarily that cable operators must carry only one or the other signal. Logically, if a broadcaster is only upconverting analog content, it is hard to understand why a cable company should be required to carry two versions of the same content. On the other hand, if the broadcaster is providing a different program stream, HDTV or SDTV with additional data content, the consumer is provided with benefit beyond analog television. In this case it is hard to see why the cable company should not provide the full, undiluted benefits of broadcast-quality DTV or true digital HDTV. Failure to resolve this must-carry issue presents a huge potential barrier to the DTV transition.

Digital copyright concerns must also be addressed and resolved if DTV is to succeed in the marketplace. Deeply troubled by the Internet music phenomenon and fearing the "Napsterization" of movies, the Motion Picture Association of America is expected to advocate severe limits on digital video copying. While no one condones the crime of video piracy, the Supreme Court held in 1984 that consumers have a right to make copies of TV programs, including movies, provided they are for "personal, non-commercial use." A reasonable balance

must be struck between the legitimate concerns of content owners, on the one hand, and the well-established principle of “fair use” on the other. The digital age complicates, but should not fundamentally alter, the traditional fair use rights of consumers. As with other delivery media, any attempt on the part of copyright holders to deny consumers an over-the-air movie or other program, or degrade its transmission quality, obviates one of the primary reasons for buying widescreen HDTV: to enjoy movies the way they were intended to be seen.

Conclusion

No one said that the DTV transition would be easy. But there is momentum. We are pleased that DTV product sales thus far are well ahead of our industry’s projections and that the number of DTV stations is growing as well. Now, manufacturers, broadcasters, cable operators and content producers must work together to formulate lasting solutions that will allow this fledgling medium to succeed. With the transmission standards debate behind us, we must resolve these few remaining issues and make DTV happen for the benefit of American consumers, who in the end will judge the true success of the DTV transition.